

Form 1 Page 1 Execution Page	<b>U.S. SECURITIES AND EXCHANGE COMMISSION</b> WASHINGTON, D.C. 20549  <b>APPLICATION FOR, AND AMENDMENTS TO APPLICATION FOR, REGISTRATION AS A NATIONAL SECURITIES EXCHANGE OR EXEMPTION FROM REGISTRATION PURSUANT TO SECTION 5 OF THE EXCHANGE ACT</b>	Date filed (MM/DD/YY)  <b>02/23/18</b>	OFFICIAL USE ONLY
WARNING: Failure to keep this form current and to file accurate supplementary information on a timely basis, or the failure to keep accurate books and records or otherwise to comply with the provisions of law applying to the conduct of the applicant would violate the federal securities laws and may result in disciplinary, administrative or criminal action.			
INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACTS MAY CONSTITUTE CRIMINAL VIOLATIONS			
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> APPLICATION           <input checked="" type="checkbox"/> AMENDMENT         </div>			
1. State the name of the applicant: <u>Cboe EDGX Exchange, Inc.</u>			
2. Provide the applicant's primary street address (Do not use a P.O. Box): <u>8050 Marshall Dr., Suite 120</u> <u>Lenexa, Kansas 66214</u>			
3. Provide the applicant's mailing address (if different): <hr/>			
4. Provide the business telephone and facsimile number: <u>(913) 815-7000</u> (Telephone) <u>(913) 815-7119</u> (Facsimile)			
5. Provide the name, title and telephone number of a contact employee: <u>Anders Franzon</u> SVP, Associate General Counsel, Cboe EDGX Exchange, Inc. <u>(913) 815-7154</u> (Name) (Title) (Telephone Number)			
6. Provide the name and address of counsel for the applicant: <u>Joanne Moffie-Silver</u> <u>400 S. LaSalle Street</u> <u>Chicago, IL 60605</u>			
7. Provide the date that applicant's fiscal year ends: <u>December 31</u>			
8. Indicate legal status of the applicant: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Partnership <input type="checkbox"/> Partnership <input type="checkbox"/> Limited Liability Company <input type="checkbox"/> Other (specify): _____			
If other than a sole proprietor, indicate the date and place where applicant obtained its legal status (e.g. state where incorporated, place where partnership agreement was filed or where applicant entity was formed): (a) Date (MM/DD/YY): <u>11/01/07</u> (b) State/Country of formation: <u>Delaware/United States of America</u> (c) Statute under which applicant was organized: <u>General Corporation Law of the State of Delaware</u>			
<b>EXECUTION:</b> The applicant consents that service of any civil action brought by, or notice of any proceeding before, the Securities and Exchange Commission in connection with the applicant's activities may be given by registered or certified mail or confirmed telegram to the applicant's contact employee at the main address, or mailing address if different, given in Items 2 and 3. The undersigned, being first duly sworn, deposes and says that he/she has executed this form on behalf of, and with the authority of, said applicant. The undersigned and applicant represent that the information and statement contained herein, including exhibits, schedules, or other documents attached hereto, and other information filed herewith, all of which are made a part hereof, are current, true and complete.			
Date: <u>02/23/18</u> (MM/DD/YY)			
By: <u>[Signature]</u> (Signature)			
Subscribed and sworn before me this <u>23rd</u> day of <u>Feb.</u> <u>2018</u> by <u>Anders Franzon</u> (Month) (Year) (Notary Public)			
My Commission expires <u>08/04/19</u> County of <u>Johnson</u> State of <u>Kansas</u>			
This page must always be completed in full with original, manual signature and notarization. Affix notary stamp or seal where applicable.			

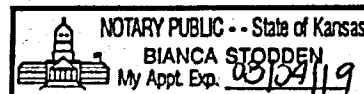
Securities and Exchange

FEB 23 2018

RECEIVED



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SEC MAIL PROCESSING  
Received

FEB 26 2018

WASH, D.C.

February 23, 2018

**Via Federal Express**

Ms. Jeanette Marshall  
Securities and Exchange Commission  
Division of Trading and Markets  
100 F Street, N.E.  
Mail Stop 6628  
Washington, DC 20549-0001

**Securities and Exchange**

**FEB 26 2018**

**RECEIVED**

Re: **Cboe EDGX Exchange, Inc.  
Form 1 Amendment**

Dear Jeanette:

On behalf of Cboe EDGX Exchange, Inc. (or the "Exchange"), and in connection with the Cboe Form 1 that is on file with the Securities and Exchange Commission ("Commission"), enclosed please find one original and two copies of the Execution Page to Form 1 as well as the following exhibits:

- Exhibit C<sup>1</sup> (updated to reflect list of Directors and Committee Members)
- Exhibit J (updated to reflect any changes in names, titles, positions or term commencement dates and types of business of Officers and Directors);
- Exhibit M (updated to provide a list of firms currently approved as members or other users of the Exchange)

This amendment is filed in accordance with SEC Rule 6a-2 and is intended to replace Exhibits C, J, M currently on file with the Commission. Please do not hesitate to contact me if you have any questions or require anything further.

Sincerely,

Anders Franzon  
SVP, Associate General Counsel

Enclosures

<sup>1</sup> Updated to reflect changes in Directors and Officers, as well as the elimination of all committees other than the Executive and ROC (Applicable to all 6 Exchange: BZX, BYX, EDGA, EDGX, Cboe, & C2)

**Exhibit C**

**Exhibit Request:**

**For each subsidiary or affiliate of the applicant, and for any entity with whom the applicant has a contractual or other agreement relating to the operation of an electronic trading system to be used to effect transactions on the exchange (“System”), provide the following information:**

- 1. Name and address of organization.**
- 2. Form of organization (e.g., association, corporation, partnership, etc.).**
- 3. Name of state and statute citation under which organized. Date of incorporation in present form.**
- 4. Brief description of nature and extent of affiliation.**
- 5. Brief description of business or functions. Description should include responsibilities with respect to operation of the System and/or execution, reporting, clearance, or settlement of transactions in connection with operation of the System.**
- 6. A copy of the constitution.**
- 7. A copy of the articles of incorporation or association including all amendments.**
- 8. A copy of existing by-laws or corresponding rules or instruments.**
- 9. The name and title of the present officers, governors, members of all standing committees or persons performing similar functions.**
- 10. An indication of whether such business or organization ceased to be associated with the applicant during the previous year, and a brief statement of the reasons for termination of the association.**

**Response: Please see below responses for the following entities:**

**A. Bats Global Markets Holdings, Inc.**

1. *Name:* Bats Global Markets Holdings, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 29, 2007.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Bats Global Markets Holdings, Inc. Bats Global Markets Holdings, Inc. is the Exchange's 100% owner.
5. *Brief description of business or functions:* Bats Global Markets Holdings, Inc. is an intermediate holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President, COO)
- Bryan Harkins (Senior Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**B. Direct Edge LLC**

1. *Name:* Direct Edge LLC  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on December 31, 2014. Was converted from Direct Edge, Inc., a Delaware corporation, on December 31, 2014.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC owns 100% of the membership interests of Direct Edge LLC.
5. *Brief description of business or functions:* Direct Edge LLC is an intermediate holding company. Direct Edge LLC is the sole shareholder of Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws or corresponding rules or instruments:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
  - Chris Concannon (President)
  - Bryan Harkins (Senior Vice President)
  - Alan Dean (Chief Financial Officer)
  - Chris Isaacson (Chief Information Officer)
  - Joanne Moffic-Silver (Secretary)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**C. Cboe BZX Exchange, Inc.**

1. *Name:* Cboe BZX Exchange, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on November 1, 2007.
4. *Brief description of nature and extent of affiliation:* Cboe BZX Exchange, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe BZX Exchange, Inc. operates as a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached amendment indicating the entity name change.
8. *Copy of existing by-laws:* See attached for Seventh Amended and Restated By-laws.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Chris Concannon (President and COO)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- David Gray (SVP, Global Client Services)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- David Reynolds (VP, & Chief Accounting Officer)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- John Sexton (Deputy General Counsel)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Edward Tilly (Chief Executive Officer)
- Michael Todd (VP, OSC)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (VP Office of CEO)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.



**D. Cboe BYX Exchange, Inc.**

1. *Name:* Cboe BYX Exchange, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on July 31, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe BYX Exchange, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe BYX Exchange, Inc. operates as a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Chris Concannon (President and COO)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)

- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- David Gray (SVP, Global Client Services)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- David Reynolds (VP, & Chief Accounting Officer)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- John Sexton (Deputy General Counsel)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Edward Tilly (Chief Executive Officer)
- Michael Todd (VP, OSC)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (VP Office of CEO)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**E. Cboe EDGA Exchange, Inc.**

1. *Name:* Cboe EDGA Exchange, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under the General Corporation Law of the State of Delaware on March 9, 2009.
4. *Brief description of nature and extent of affiliation:* Cboe EDGA Exchange, Inc. is an indirect wholly-owned subsidiary of Cboe Global Markets, Inc., the Exchange's ultimate parent.
5. *Brief description of business or functions:* Cboe EDGA Exchange, Inc. operates a registered national securities exchange pursuant to Section 6 of the Act.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached amendment indicating the entity name change.
8. *Copy of existing by-laws:* See attached for Eighth Amended and Restated By-laws.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Chris Concannon (President and COO)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)

- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- David Gray (SVP, Global Client Services)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- David Reynolds (VP, & Chief Accounting Officer)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- John Sexton (Deputy General Counsel)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Edward Tilly (Chief Executive Officer)
- Michael Todd (VP, OSC)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (VP Office of CEO)

Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**F. Cboe Trading, Inc.**

1. *Name:* Cboe Trading, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on June 16, 2005.
4. *Brief description of nature and extent of affiliation:* Cboe Trading, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe Trading, Inc. is a broker-dealer registered as such with the Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority and other self-regulatory organizations. Cboe Trading, Inc. provides routing of orders from the Exchange Cboe BYX Exchange, Inc., Cboe EDGA Exchange, Inc. and Cboe EDGX Exchange, Inc. to other securities exchanges, facilities of securities exchanges, automated trading systems, electronic communication networks or other broker-dealers.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Isaacson
- Chris Concannon
- Brian N. Schell

Current Officers

- Troy Yeazel (President)
- Anders Franzon (Secretary)
- Bryan Upp (Chief Compliance Officer)
- Derick Shupe (FINOP, Treasurer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**G. Omicron Acquisition Corp.**

1. *Name:* Omicron Acquisition Corp.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on February 7, 2011.
4. *Brief description of nature and extent of affiliation:* Omicron Acquisition Corp. is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Omicron Acquisition Corp. is an intermediate holding company of Cboe Worldwide Holdings Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Mark Hemsley (President and Treasurer)
- Joanne Moffic-Silver (Vice President and Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.



**H. Cboe FX Holdings, LLC**

1. *Name:* Cboe FX Holdings, LLC  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on May 15, 2000. Name was amended from Hotspot FX Holdings, LLC, a Delaware LLC, on March 11, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Holdings, LLC is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Holdings, LLC is an intermediate holding company of Cboe FX Markets, LLC, Cboe FX Services, LLC, Cboe SEF, LLC, and Bats Hotspot IB LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Bryan Harkins (Senior Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**I. Cboe FX Markets, LLC**

1. *Name:* Cboe FX Markets, LLC  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on August 7, 2001. Name was amended from KCG Hotspot FX LLC, a Delaware LLC, on March 12, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Markets, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Markets, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
  - Chris Concannon (President)
  - Bryan Harkins (Senior Vice President)
  - Alan Dean (Treasurer)
  - Joanne Moffic-Silver (Secretary)
  - Barry Calder (Head of Liquidity & Client Services)
  - Paul Reidy (Chief Operating Officer)
  - Lisa Shemie (Associate General Counsel)
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**J. Cboe FX Services, LLC**

1. *Name:* Cboe FX Services, LLC  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in New Jersey under Section 42 of the Limited Liability Company Act of the State of New Jersey on November 22, 2004. Name was amended from KCG Hotspot FX LLC, a Delaware LLC, on March 12, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Services, LLC is wholly-owned by Cboe FX Holdings, LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Services, LLC operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Ed Tilly (Chief Executive Officer)
- Chris Concannon (President)
- Bryan Harkins (Senior Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)
- Barry Calder (Head of Liquidity & Client Securities)

10. Indication of whether such business or organization ceased to be associated with the applicant during previous year: Not applicable.

**K. Cboe International Holdings Limited**

1. *Name:* Cboe International Holdings Limited  
*Address:* 10 Lower Thames Street, 6<sup>th</sup> Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe International Holdings Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe International Holdings Limited is a holding company of Cboe FX Europe Limited, Bats Hotspot Asia Pte. Ltd., and IndexPubs S.A.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached Certificate of Incorporation on Change of Name.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**L. Cboe FX Europe Limited**

1. *Name:* Cboe FX Europe Limited  
*Address:* 10 Lower Thames Street, 6<sup>th</sup> Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in England and Wales under the Companies Act 1985 on February 5, 2015.
4. *Brief description of nature and extent of affiliation:* Cboe FX Europe Limited is wholly-owned by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe FX Europe Limited operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**M. Bats Hotspot Asia Pte. Ltd.**

1. *Name:* Bats Hotspot Asia Pte. Ltd.  
*Address:* 16 Collyer Quay, #2104, Sixteen Collyer Quay, Singapore (049318)
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Singapore under the Companies Act (Cap. 50) on February 23, 2015.
4. *Brief description of nature and extent of affiliation:* Bats Hotspot Asia Pte. Ltd. is wholly-owned by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Bats Hotspot Asia Pte. Ltd. operates an institutional spot foreign exchange market.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Chris Concannon
- Ng Lip Chih

Current Officers

- Chris Concannon (President)
- Chew Pei Tsing (Secretary)
- Lai Jek Ping (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**N. Cboe Europe Limited**

1. *Name:* Cboe Europe Limited  
*Address:* 10 Lower Thames Street, 6<sup>th</sup> Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in England and Wales under the Companies Act 1985 on March 28, 2008.
4. *Brief description of nature and extent of affiliation:* Cboe Europe Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Europe Limited is recognized as a Recognized Investment Exchange in the United Kingdom under the Financial Services and Markets Act 2000 (“FSMA”). It operates a platform for trading of European equity securities.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached Certificate of Incorporation on Change of Name
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Woodman
- Mark Hemsley
- Adam Eades
- Richard Balarkas
- Rebecca Fuller
- Julian Corner
- Kristian West
- Ted Hood

Current Officers

- Mark Hemsley (CEO)
- Antonio Amelia (Secretary)
- Jill Griebenow (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)
- Jerry Avenell (Co-Head Sales)
- Alex Dalley (Co-Head Sales)
- Guy Simpkin (Head of Business Development)

- David Howson (COO)

Standing Committees

Audit, Risk and Compliance Committee

- Ted Hood
- Rebecca Fuller
- Richard Balarkas

Remuneration Committee

- John Woodman
- Rebecca Fuller
- Kristian West

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.



**O. Cboe Chi-X Europe Limited**

1. *Name:* Cboe Chi-X Europe Limited  
*Address:* 10 Lower Thames Street, 6<sup>th</sup> Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in England and Wales.
4. *Brief description of nature and extent of affiliation:* Cboe Chi-X Europe Limited is wholly-owned by Cboe Europe Limited which, in turn, is indirectly wholly owned by Bats Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Chi-X Europe Limited is authorized in the United Kingdom under the Financial Services and Markets Act 2000 (“FSMA”), as an investment firm. Between April 30, 2012 and May 20, 2013 it was a dormant company. Since May 20, 2013, Cboe Chi-X Europe Limited operates the smart order router that is needed for the routing strategies deployed by Cboe Europe Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached Certificate of Incorporation on Change of Name.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Mark Hemsley
- Adam Eades
- John Woodman

Current Officers

- John Woodman (Chairman)
- Mark Hemsley (CEO)
- Antonio Amelia (Secretary)
- Jill Griebenow (CFO)
- Adam Eades (Chief Legal and Regulatory Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**P. Cboe ETF.com, Inc.**

1. *Name:* Cboe ETF.com, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on March 28, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe ETF.com, Inc. is wholly-owned by Bats Global Markets Holdings, Inc., which is also the Exchange's 100% owner.
5. *Brief description of business or functions:* Cboe ETF.com, Inc. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon

Current Officers

- Dave Nadig (Chief Executive Officer)
- Chris Concannon (President and Chief Operating Officer)
- Bryan Harkins (Senior Vice President)
- Alan Dean (Chief Financial Officer and Treasurer)
- Chris Isaacson (Executive Vice President and Global Chief Information Officer)
- Joanne Moffic-Silver (Executive Vice President, General Counsel and Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**Q. INDEXPUBS S.A.**

1. *Name:* INDEXPUBS S.A.  
*Address:* Almagro Plaza, Ste. 508, Pedro Ponce Carrasco, E8-06 y Diego de Almagro, 170516 – Quito, Ecuador
2. *Form of organization:* Corporation (Soceidad Anonima or S.A.).
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Ecuador on January 15, 2008.
4. *Brief description of nature and extent of affiliation:* INDEXPUBS S.A. is owned 0.1% by Fernando Rivera and 99.9% by Cboe International Holdings Limited which is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* INDEXPUBS S.A. is a media company providing ETF data, news and analysis.
6. *Copy of constitution:* No changes.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

Current Officers

- Dave Nadig (President)
- Verónica Rocío Bravo (General Manager)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**R. Bats Hotspot IB LLC**

1. *Name:* Bats Hotspot IB LLC  
*Address:* 17 State Street, 31<sup>st</sup> Floor, New York, NY 10004
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Illinois under Section 15-1 of the Limited Liability Company Act of the State of Illinois on May 23, 2003.
4. *Brief description of nature and extent of affiliation:* Bats Hotspot IB LLC is wholly-owned by Cboe FX Holdings LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Bats Hotspot IB LLC is an introducing broker registered with the National Futures Association.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Officers

- Bryan Harkins (Senior Vice President)
- Derick Shupe (Chief Accounting Officer)

Managers

- Chris Concannon

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

S. **Cboe SEF, LLC**

1. *Name:* Cboe SEF, LLC  
*Address:* 17 State Street, 31<sup>st</sup> Floor, New York, NY 10004
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on April 19, 2012.
4. *Brief description of nature and extent of affiliation:* Cboe SEF, LLC is wholly-owned by Cboe FX Holdings LLC, which is wholly-owned by Bats Global Markets Holdings, Inc., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe SEF, LLC is a swap execution facility registered with the Commodity Futures Trading Association, which will soon list non-deliverable foreign exchange forwards for trading.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes..
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Officers

- Bryan Harkins (Chief Executive Officer)
- Lisa Shemie (Chief Compliance Officer)

Managers

- Chris Concannon
- Gilbert Bassett
- Michael Gorham
- James Parisi
- Jill Sommers

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**T. Cboe Worldwide Holdings Limited**

1. *Name:* Cboe Worldwide Holdings Limited  
*Address:* 10 Lower Thames Street, 6<sup>th</sup> Floor, London, UK EC3R 6AF
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in England and Wales under the Companies Act 2006 on November 9, 2016.
4. *Brief description of nature and extent of affiliation:* Cboe Worldwide Holdings Limited is wholly-owned by Omicron Acquisition Corp., which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Cboe Worldwide Holdings Limited is an intermediate holding company of Cboe Europe Limited and Cboe International Holdings Limited.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* See attached Certificate of Incorporation on Change of Name.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Chris Concannon
- Mark Hemsley

Current Officers

- Antonio Amelia (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**U. Cboe Global Markets, Inc.**

1. *Name:* Cboe Global Markets, Inc.  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. §101, et seq), August 15, 2006.
4. *Brief description of nature and extent of affiliation:* Cboe Bats, LLC is a wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- James Boris
- Frank English
- William Farrow
- Edward Fitzpatrick
- Janet Froetscher
- Jill Goodman
- Chris Mitchell
- Roderick Palmore
- Joe Ratterman
- Michael Richter
- Samuel Skinner
- Carole Stone
- Eugene Sunshine

Current Officers

- Chris Concannon (President and COO)
- Alan Dean (EVP, CFO and Treasurer)
- Mark Hemsley (EVP, President Europe)
- Chris Isaacson (EVP, CIO)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)

- David Reynolds (VP, & Chief Accounting Ofc)
- Edward Tilly (Chief Executive Officer)

Compensation Committee

- Frank English
- Janet Froetscher
- Samuel Skinner
- Eugene Sunshine
- Edward Fitzpatrick

Audit Committee

- William Farrow
- Edward Fitzpatrick
- Carole Stone
- Michael Richter

Nominating and Governance Committee

- Jill Goodman
- Roderick Palmore
- Samuel Skinner
- Carole Stone
- Eugene Sunshine

Finance and Strategy Committee

- Frank English
- Edward Fitzpatrick
- Jill Goodman
- Carole Stone
- Chris Mitchell
- Joe Ratterman

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.



V. **Cboe C2 Exchange, Inc.**

1. *Name:* Cboe C2 Exchange, Inc.  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), July 21, 2009.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe C2 Exchange, Inc. is a registered national securities exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Chris Concannon (President and COO)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)

- Laura Dickman (VP, Associate General Counsel)
- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- David Gray (SVP, Global Client Services)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- David Reynolds (VP, & Chief Accounting Officer)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- John Sexton (Deputy General Counsel)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Edward Tilly (Chief Executive Officer)
- Michael Todd (VP, OSC)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (VP Office of CEO)

Standing Committees

Executive Committee

- Edward Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

W. **Cboe Futures Exchange, LLC**

1. *Name:* Cboe Futures Exchange, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
July 16, 2002.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Future Exchanges, LLC is a  
contract market approved by the Commodity Futures Trading Commission in  
August 2003. Cboe Futures Exchange, LLC is a fully electronic futures exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes..
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Chris Concannon
- Gilbert Bassett, Jr.
- Michael Gorham
- James Parisi
- Jill Sommers

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Joseph Caauwe (Managing Director - CFE)
- Chris Concannon (President)
- Alan Dean (EVP, CFO and Treasurer)
- Gregory Hoogasian (SVP, CRO of CBOE C2, CFE)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (SVP, Business Development)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Michael Mollet (Managing Director - CFE)

- Arthur Reinstein (Deputy General Counsel)
- David Reynolds (VP & Chief Accounting Ofc)

Standing Committees

Executive

- Chris Concannon
- Michael Gorham

Regulatory Oversight Committee

- Michael Gorham
- Gilbert Bassett
- James Parisi
- Jill Sommers

Trading Advisory Committee

- Jay Caauwe
- Kirk Bonniwell
- Zeke Charlesworth
- Michael Dennis
- Johan Drylewicz
- Alex Gerko
- Josh Grant
- Douglas Schadewald
- Andrew Smith

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**X. CBOE Stock Exchange, LLC**

1. *Name:* CBOE Stock Exchange, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
July 31, 2006.
4. *Brief description of nature and extent of affiliation:* CBOE Stock Exchange, LLC  
is a 49.96%-owned subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* CBOE Stock Exchange, LLC operated  
the CBOE Stock Exchange, which acted as a trading market for securities other  
than options as a facility of Cboe Exchange, Inc. CBOE Stock Exchange, LLC  
was approved by the SEC in March 2007. CBOE Stock Exchange, LLC ceased  
trading operations on April 30, 2014.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Alan Dean
- James Fitzgibbons
- Jaap Gelderloos
- Andrew Lowenthal
- Tom O'Mara
- Rick Oscher
- John Deters
- Dave Reynolds
- Eric Frait
- Steve Sosnick

Current Officers

- Angelo Evangelou (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

Y. **Cboe Exchange, Inc.**

1. *Name:* Cboe Exchange, Inc.  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), February 8, 1972.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Exchange, Inc. is a registered national securities exchange.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Current Officers

- Alexandra Albright (Chief Compliance Officer)
- Lawrence Bresnahan (VP, Market & Member Reg.)
- Rodney Burt (VP, Infrastructure)
- Kevin Carrai (VP, Connectivity)
- Bryan Christian (SVP, Sales US Equities)
- Paul Ciciora (VP, Systems Infrastructure)
- Catherine Clay (VP, Business Development)
- Chris Concannon (President and COO)
- Jeff Connell (VP, Deputy Chief Regulatory Officer)
- Eric Crampton (SVP, Software Engineer)
- John Deters (EVP, Chief Strategy Officer & Head Corp Initiative)
- Laura Dickman (VP, Associate General Counsel)

- James Enstrom (VP, & Chief Audit Exec)
- Eric Frait (VP, Business Analysis)
- Anders Franzon (SVP & Deputy General Counsel)
- Todd Furney (VP, Chief Risk Officer)
- Alicia Goldberg (VP, Statistical Analysis)
- David Gray (SVP, Global Client Services)
- Bryan Harkins (EVP, Head of US Equities & Global FX)
- Mark Hemsley (EVP, President Europe)
- Gregory Hoogasian (SVP, CRO)
- Chris Isaacson (EVP, CIO)
- Jennifer Lamie (VP, Chief Regulatory Advisor)
- Stephanie Lara Marrin (Deputy Chief Reg Officer)
- Andrew Lowenthal (EVP, Head of Global Derivatives)
- Marc Magrini (VP, Administration)
- Joanne Moffic-Silver (EVP, General Counsel & Corporate Secretary)
- Anthony Montesano (VP, TSD and Registration)
- Laura Morrison (SVP, ETP Listings)
- Mark Novak (VP, CTO Development)
- Arthur Reinstein (SVP & Deputy General Counsel)
- David Reynolds (VP, & Chief Accounting Officer)
- Bradley Samuels (VP, Systems Development)
- Brian Schell (VP, CFO, & Treasurer)
- Curt Schumacher (VP, CTO Operations)
- Derick Shupe (VP, Controller)
- John Sexton (Deputy General Counsel)
- Steven Sinclair (VP, Systems Development)
- Eileen Smith (VP, Systems Planning)
- William Speth (VP, Research & Product Development)
- Paul Stephens (VP, Global Client Services)
- Edward Tilly (Chief Executive Officer)
- Michael Todd (VP, OSC)
- Michael Todorofsky (VP, US Market Operations)
- Michael Trees (VP, Trading Sys Develop.)
- Aaron Weissenfluh (VP, CISO)
- Troy Yeazel (SVP, Operations)
- Vivian Yiu (VP, Product Strategy)
- Laura Zinanni (VP Office of CEO)



Standing Committees

Executive Committee

- Ed Tilly
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner
- Bruce Andrews
- David Roscoe

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**Z. Cboe Building Corporation**

1. *Name:* Cboe Building Corporation  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), August 8, 1980.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Owns facility used by Cboe Global Markets, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Alan Dean
- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- Alan Dean (Treasurer)
- LuAnn O'Shea (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**AA. CBOE, LLC**

1. *Name:* CBOE, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
August 22, 2001.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* CBOE, LLC is a limited liability  
company member of OneChicago, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- Andrew Lowenthal (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**BB. CBOE III, LLC**

1. *Name:* CBOE III, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
May 2, 2014.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in  
Tradelegs, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- John Deters
- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- John Deters (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

CC. Cboe Bats, LLC

1. *Name:* Cboe Bats, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
September 25, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Alan Dean
- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- Bryan Harkins (Senior Vice President)
- John Deters (Vice President)
- Chris Isaacson (Vice President)
- Brian Schell (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**DD. CBOE Livevol, LLC**

1. *Name:* CBOE Livevol, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
May 29, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* CBOE Livevol, LLC provides equity  
and index options technology for professional and retail traders, which includes  
options strategy backtesting, trade analysis and volatility modeling technologies  
and historical data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Andrew Lowenthal
- John Deters
- Catherine Clay

Current Officers

- John Deters (President)
- Andrew Lowenthal (Vice President)
- Catherine Clay (Vice President)
- Chris Isaacson (Vice President)
- Dave Reynolds (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**EE. Cboe UK Limited**

1. *Name:* Cboe UK Limited  
*Address:* Level 30, The Leadenhall Building, 122 Leadenhall Street, London, United Kingdom EC3V 4AB
2. *Form of organization:* Private Limited Company.
3. *Name of state, statute under which organized and date of incorporation:* England and Wales, Companies Act 2006, March 10, 2016.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Marketing and business development services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- None

Current Officers

- Dave Gray

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**FF. CBOE Vest, LLC**

1. *Name:* CBOE Vest, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
December 10, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company of majority equity  
investment in Vest Financial Group, Inc.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- John Deters
- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- John Deters (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.



**GG. Loan Markets, LLC**

1. *Name:* Loan Markets, LLC  
*Address:* 400 S. LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
May 11, 2015.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Holding company for investment in  
American Financial Exchange, LLC.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- John Deters
- Chris Concannon
- Ed Tilly

Current Officers

- Chris Concannon (President)
- John Deters (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**HH. Cboe Data Services, LLC**

1. *Name:* Cboe Data Services, LLC  
*Address:* 400 South LaSalle Street Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
February 21, 2006.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of  
Cboe Global Markets, Inc.
5. *Brief description of business or functions:* Cboe Data Services, LLC sells market  
data.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:*

Current Directors

- Eric Frait
- Bryan Harkins
- Chris Isaacson
- Jim Roche
- Curt Schumacher

Current Officers

- Chris Isaacson (President)
- Bryan Harkins (Senior Vice President)
- Kevin Carrai (Vice President)
- Jim Roche (Vice President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**II. Signal Trading Systems, LLC**

1. *Name:* Signal Trading Systems, LLC  
*Address:* 400 South LaSalle Street, Chicago, Illinois 60605
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware Limited Liability Company Act (6 Del. C. §18-101, et seq),  
May 13, 2010.
4. *Brief description of nature and extent of affiliation:* Fifty percent (50%)  
subsidiary of Cboe Exchange, Inc.
5. *Brief description of business or functions:* Signal Trading Systems, LLC  
developed and markets a multi-asset front-end order entry system known as  
“Pulse”.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees  
and persons performing similar functions:* There are no directors or officers of  
Signal Trading Systems, LLC.
10. *Indication of whether such business or organization ceased to be associated with  
the applicant during previous year:* Not applicable.

**JJ. The Options Exchange, Incorporated**

1. *Name:* The Options Exchange, Incorporated  
*Address:* 400 South LaSalle Street, Chicago, IL 60605
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. § 101, et seq), January 7, 1974.
4. *Brief description of nature and extent of affiliation:* Wholly-owned subsidiary of Cboe Global Markets, Inc.
5. *Brief description of business or functions:* The Options Exchange, Incorporated has been inactive since its incorporation.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- Alan Dean
- Chris Concannon
- Ed Tilly

Current Officers

- Ed Tilly (Chairman)
- Chris Concannon (President)
- Alan Dean (Treasurer)
- Joanne Moffic-Silver (Secretary)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**KK. Vest Financial Group, Inc.**

1. *Name:* Vest Financial Group, Inc.  
*Address:* 8300 Greensboro Drive, 8<sup>th</sup> Floor, McLean, VA 22102
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Delaware, Delaware General Corporation Law (8 Del. C. §101, et seq), January 2, 2015.
4. *Brief description of nature and extent of affiliation:* Majority-owned subsidiary of CBOE Vest, LLC.
5. *Brief description of business or functions:* Through its subsidiaries, provides options-based investment advisory services.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* No changes.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*

Current Directors

- John Deters
- Karan Sood
- William Speth

Current Officers

- Karan Sood (Chief Executive Officer)
- Jeffrey Chang (Chief Financial Officer)

10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**LL. Cboe Hong Kong Limited**

1. *Name:* Cboe Hong Kong Limited  
*Address:* 6<sup>th</sup> Floor, Alexandra House, 18 Chater Road, Central, Hong Kong
2. *Form of organization:* Private Company Limited by Shares.
3. *Name of state, statute under which organized and date of incorporation:* Hong Kong under the Companies Ordinance (Chapter 622 of the Laws of Hong Kong), May 29, 2017.
4. *Brief description of nature and extent of affiliation:* Cboe Hong Kong Limited is wholly-owned by Cboe Worldwide Holdings Limited, which is an affiliate of the Exchange.
5. *Brief description of business or functions:* Marketing and business development services (business expected to commence in September 2017).
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* No changes.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:*  
  
Current Directors
  - Dave Gray  
Current Officers
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* Not applicable.

**MM. Bats Hotspot SEF LLC**

1. *Name:* Bats Hotspot SEF LLC  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Limited Liability Company.
3. *Name of state, statute under which organized and date of incorporation:* Formed in Delaware under Section 201 of the Limited Liability Company Act of the State of Delaware on May 1, 2015.
4. *Brief description of nature and extent of affiliation:* As of August 18, 2016, Bats Hotspot SEF LLC ceased to exist.
5. *Brief description of business or functions:* Not applicable.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* Not applicable.
8. *Copy of existing by-laws:* Not applicable
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:* None.
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* As of August 18, 2016, Bats Hotspot SEF LLC ceased to exist.

**NN. Bats Global Markets, Inc.**

1. *Name:* Bats Global Markets, Inc.  
*Address:* 8050 Marshall Dr., Ste. 120, Lenexa, KS 66214
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*  
Incorporated in Delaware under Section 101 of the General Corporation Law of the State of Delaware on August 22, 2013.
4. *Brief description of nature and extent of affiliation:* On February 28, 2017, Bats Global Markets, Inc. was merged with and into Cboe Bats, LLC, with Cboe Bats, LLC as the surviving corporation.
5. *Brief description of business or functions:* Not applicable.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* Not applicable.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:* None.
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* As of February 28, 2017, Bats Global Markets, Inc. ceased to exist.



**OO. DerivaTech Corporation**

1. *Name:* DerivaTech Corporation  
*Address:*
2. *Form of organization:* Corporation.
3. *Name of state, statute under which organized and date of incorporation:*
4. *Brief description of nature and extent of affiliation:* DerivaTech Corporation, a previously wholly-owned subsidiary of CBOE Holdings, was dissolved on December 22, 2016.
5. *Brief description of business or functions:* Not applicable.
6. *Copy of constitution:* Not applicable.
7. *Copy of articles of incorporation or association and amendments:* Not applicable.
8. *Copy of existing by-laws:* Not applicable.
9. *Name and title of present officers, governors, members of standing committees and persons performing similar functions:* None.
10. *Indication of whether such business or organization ceased to be associated with the applicant during previous year:* DerivaTech Corporation, a previously wholly-owned subsidiary of CBOE Holdings, was dissolved on December 22, 2016.

**Exhibit J****Exhibit Request:**

A list of the officers, governors, members of all standing committees, or persons performing similar functions, who presently hold or have held their offices or positions during the previous year, indicating the following for each:

1. Name.
2. Title.
3. Dates of commencement and termination of term of office or position.
4. Type of business in which each is primarily engaged (e.g., floor broker, specialist, odd lot dealer, etc.)

**Response:**

1. Officers

Pursuant to the Certificate of Incorporation and Bylaws of the Exchange, the Exchange's Board of Directors has appointed the individuals listed below as Officers of the Exchange. These individuals will serve in these positions until their successors have been duly chosen or qualified or until the officer's earlier death, resignation or removal.

Officers				
Name:	Title:	Appointment Date:	Termination/ Change Position Date:	
Alexandra Albright	Chief Compliance Officer	02/28/17		
Lawrence Bresnahan	Vice President, Market & Member Regulation	02/13/18		
Rodney Burt	Vice President, Infrastructure	02/10/15		
Kevin Carrai	Vice President, Connectivity	02/10/15		
Bryan Christian	Senior Vice President, Sales US Equities	02/10/15		
Paul Ciciora	Vice President, Systems Infrastructure	02/13/18		
Catherine Clay	Vice President, Business Development	02/13/18		

**Cboe EDGX Exchange, Inc. Form 1 Registration Statement: Exhibit J**

Chris Concannon	President & COO	02/10/15		
Chris Concannon	Chief Operations Officer	02/28/17		
Jeff Connell	Vice President, Deputy Chief Regulatory Officer	11/02/15		
Eric Crampton	Senior Vice President, Software Engineer	05/12/15		
John Deters	Executive Vice President, Chief Strategy Officer & Head of Corporates Initiatives	02/28/17		
Laura Dickman	Vice President, Associate General Counsel	02/13/18		
James Enstrom	Vice President, Chief Audit Executive	02/28/17		
Eric Frait	Vice President, Business Analysis	02/28/17		
Anders Franzon	Senior Vice President and Deputy General Counsel	11/02/15		
Todd Furney	Vice President, Chief Risk Officer	02/28/17		
Alicia Goldberg	Vice President, Statistical Analysis	02/28/17		
David Gray	Senior Vice President, Global Client Services	02/28/17		
Bryan Harkins	Executive Vice President, Head of U.S. Equities & Global FX	02/10/15		
Mark Hemsley	Executive Vice President, President Europe			
Gregory Hoogasian	Senior Vice President, Chief Regulatory Officer	02/28/17		

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Chris Isaacson	Executive Vice President, Global Chief Information Officer	02/10/15		
Jennifer Lamie	Vice President, Chief Regulatory Advisor	02/13/18		
Stephanie Marrin Lara	Vice President, Deputy Chief Regulatory Officer	02/13/18		
Andrew Lowenthal	Executive Vice President, Head of Global Derivatives	02/28/17		
Marc Magrini	Vice President, Administration	02/13/18		
Joanne Moffic-Silver	Executive Vice President, General Counsel & Corporate Secretary	02/28/17		
Anthony Montesano	Vice President, TSD and Registration	02/13/18		
Laura Morrison	Senior Vice President, ETP Listings	05/12/15		
Mark Novak	Vice President, CTO Development	02/13/18		
Arthur Reinstein	Senior Vice President and Deputy General Counsel	02/28/17		
David Reynolds	Vice President, & Chief Accounting Officer	02/28/17		
Bradley Samuels	Vice President, Systems Development	02/13/18		
Brian N. Schell	Executive Vice President, Chief Financial Officer, Treasurer	02/10/15		
Curt Schumacher	Vice President, CTO Operations	02/13/18		
Derick Shupe	Vice President, Controller	02/10/15		

Cboe EDGX Exchange, Inc. Form 1 Registration Statement: Exhibit J

John Sexton	Deputy General Counsel	02/28/17	
Steven Sinclair	Vice President, Systems Development	02/13/18	
Eileen Smith	Vice President, Systems Planning	02/13/18	
William Speth	Senior Vice President, Research & Product Development	02/13/18	
Paul Stephens	Vice President, Global Client Services	02/13/18	
Ed Tilly	CEO	02/28/17	
Michael Todd	Vice President, OSC	02/13/18	
Michael Todorofsky	Vice President, US Market Operations	02/13/18	
Michael Trees	Vice President, Trading System Development	02/13/18	
Aaron Weissenfluh	Vice President, Chief Information Security Officer	02/10/15	
Troy Yeazel	Senior Vice President, Operations	11/02/15	
Laura Zinanni	Senior Vice President and Deputy General Counsel	02/13/18	
Vivian Yiu	Vice President, Product Strategy	11/01/16	
<b>Former Officers</b>			
Name:	Title:	Appointment Date:	Termination/ Change Position Date:
Tami Schademann	Executive Vice President, Chief Regulatory Officer	02/10/15	02/28/17
Eric Swanson	Executive Vice President, General Counsel, Secretary	02/10/15	02/28/17

**Cboe EDGX Exchange, Inc. Form 1 Registration Statement: Exhibit J**

Charles Randy Williams	Senior Vice President, Global Investor Relations & Communications	02/10/15	02/28/17
Tony Barchetto	Executive Vice President, Head of Corporate Development	05/03/16	02/28/17
Greg Steinberg	Vice President, Assistant Secretary & Associate General Counsel	02/10/15	02/13/18
Stacie Fleming	Vice President, Communication	02/10/15	02/13/18
Kapil Rathi	Senior Vice President, Options Business Development	05/12/15	02/13/18
Thad Prososki	Vice President, Human Resources	05/12/15	02/13/18
Brett Johnson	Vice President, Software Engineering	09/09/15	02/13/18
Pamela Culpepper	Chief HR Officer	02/28/17	02/13/18
Alan Dean	Executive Vice President F&A, Chief Financial Officer	02/28/17	02/13/18
Angelo Evangelou	Deputy General Counsel	02/28/17	02/13/18
Carol Kennedy	Vice President, and Chief Communications Officer	02/28/17	02/13/18
Stephanie Klein	Vice President Chief Marketing Officer	02/28/17	02/13/18
Donald Patton	Vice President, Accountant/Controller	02/28/17	02/13/18

2. Directors

The following directors were appointed in accordance with Article III of the Bylaws of the Exchange. Directors will serve one-year terms ending on the annual meeting following the meeting at which such directors were elected or at such time as their successors are elected or appointed and qualified, except in the event of earlier death, resignation, disqualification or removal. The current directors of the Exchange are the persons listed below:

<b>Directors</b>				
Name		Classification(s)	Appointment Date:	Termination Date:
Ed Tilly		Chairman & Director	02/28/17	
Bruce Andrews		Director	02/13/18	
Kevin Murphy		Director	02/13/18	
David Roscoe		Director	10/13/10	
Jill Sommers		Director	10/26/15	
Scott Wagner		Director	10/27/16	
<b>Former Directors</b>				
Name:		Title:	Appointment Date:	Termination/Change Position Date:
Matt Billings		Director	10/27/16	02/13/18
Chris Concannon		Director	03/31/15	02/13/18
Sandy Kemper		Director	10/26/15	02/13/18
Joseph Mecane		Director	10/27/15	02/13/18

3. Committees

The committees of the Board shall consist of an Executive Committee and a Regulatory Oversight Committee.

Executive Committee

- Ed Tilly (Chairman)
- Bruce Andrews
- Kevin Murphy
- David Roscoe
- Jill Sommers
- Scott Wagner

Regulatory Oversight Committee

- Scott Wagner (Chairman)
- Bruce Andrews
- David Roscoe



**Exhibit M**

**Exhibit Request:**

Provide an alphabetical list of all members, participants, subscribers or other users, including the following information:

1. Name,
2. Date of election to membership or acceptance as a participant, subscriber or other user,
3. Principal business address and telephone number,
4. If member, participant, subscriber or other user is an individual, the name of the entity with which such individual is associated and the relationship of such individual to the entity (e.g., partner, officer, director, employee, etc.),
5. Describe the type of activities primarily engaged in by the member, participant, subscriber, or other user (e.g., floor broker, specialist, odd lot dealer, other market maker, proprietary trader, non-broker dealer, inactive or other functions). A person shall be "primarily engaged" in an activity or function for purposes of this item when that activity or function is the one in which that person is engaged for the majority of their time. When more than one type of person at an entity engages in any of the six types of activities or functions enumerated in this item, identify each type (e.g., proprietary trader, Registered Competitive Trader and Registered Competitive Market Maker) and state the number of members, participants, subscribers, or other users in each, and
6. The class of membership, participation or subscription or other access.

**Response:**

Attached please find a list of the current Members and Sponsored Participants accepted as Users of the Exchange.

Company Name	BZX Approval Date	BYX Approval Date	EDGA Approval Date	EDGX Approval Date	CBOE Approval Date	C2 Approval Date	Type of User	Address	Phone Number	Primary Activities
Chimera Securities, LLC	11/17/2017	11/27/2017	11/27/2017	11/17/2017	NA	NA	Sponsored Participant	27 Union Square W 4th Floor New York, NY 10003	646-597-6100	Proprietary Trading
CIBC World Markets Corp.	8/18/2008	11/15/2010	NA	NA	2/14/1973	NA	Member TPH	425 Lexington Avenue New York, NY 10017	212-856-4000	Clearing, Transact Business with the Public
Citadel Securities LLC	10/23/2008	10/1/2010	5/14/2010	5/14/2010	4/17/2002	10/7/2010	Member TPH	131 S Dearborn Street 32nd Floor Chicago, IL 60603	312-395-2100	Market Maker, Order Flow Provider, Brokerage
Citi Order Routing and Execution, LLC	8/18/2008	9/15/2010	5/25/2010	5/27/2010	10/1/2008	9/24/2010	Member TPH	11 Ewall Street Mount Pleasant, SC 29464	843-789-2080	Clearing, Transact Business with the Public
Citigroup Derivatives Markets Inc.	2/15/2018	NA	NA	2/15/2018	12/3/2004	2/25/2011	Member TPH	130 Cheshire Lane Suite 102 Minnetonka, MN 55305	212-723-2960	Market Maker
Citigroup Global Markets Inc.	9/24/2008	12/15/2010	5/25/2010	5/27/2010	5/2/2011	NA	Member TPH	390-388 Greenwich Street New York, NY 10013	212-816-6000	Clearing, Proprietary Trading, Transact Business with the Public
Clarksons Platou Securities, Inc.	NA	NA	1/15/2015	NA	NA	NA	Member TPH	280 Park Avenue 21st Floor New York, NY 10017	212-317-7080	Public Customer Business
Clearpool Execution Services, LLC	5/15/2014	5/15/2014	6/16/2014	6/16/2014	NA	NA	Member TPH	17 State Street 38th Floor New York, NY 10004	212-531-8500	Public Customer Business
CLSA Americas, LLC	NA	NA	5/21/2013	5/21/2013	NA	NA	Member TPH	1301 Avenue of the Americas 15th Floor New York, NY 10019	212-549-5097	Agency
CM-CIC Market Solutions, Inc.	8/18/2008	NA	NA	NA	NA	NA	Member TPH	520 Madison Avenue New York, NY 10022	212-659-6292	Agency
CMT Fund XXV Limited	7/2/2012	7/2/2012	NA	NA	NA	NA	Sponsored Participant	500 W Monroe Street Suite 2630 Chicago, IL 60661	312-320-7897	Agency
CMT Trading LLC	3/17/2014	3/17/2014	3/5/2014	3/5/2014	NA	NA	Member TPH	500 W Monroe Street Suite 2630 Chicago, IL 60661	312-930-9050	Market Maker, Proprietary Trading
CMZ Trading, LLC	NA	NA	NA	NA	10/1/2004	NA	Member TPH	141 W Jackson Boulevard Suite 626 Chicago, IL 60604	312-604-3310	Market Maker, Proprietary Trading
CODA Markets, Inc.	10/15/2008	10/4/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	2624 Patriot Boulevard Glenview, IL 60026	224-521-2700	ATS
Cognitive Capital, LLC	NA	NA	NA	NA	5/13/2004	NA	Member TPH	141 W Jackson Boulevard Suite 1620 Chicago, IL 60604	312-431-0400	Proprietary Trading
Comhar Capital Markets, LLC	2/27/2017	NA	NA	NA	NA	NA	Member TPH	311 S Wacker Drive Suite 2280A Chicago, IL 60606	872-205-0190	Proprietary Trading
Compass Professional Services, LLC	6/15/2011	NA	NA	10/1/2015	4/12/2005	9/24/2010	Member TPH	111 W Jackson Boulevard 20th Floor Chicago, IL 60604	312-692-5000	Clearing, Brokerage
Consolidated Trading, LLC	NA	NA	NA	NA	1/2/2002	NA	Member TPH	71 S Wacker Drive Suite 2300 Chicago, IL 60606	312-360-7300	Market Maker
COR Clearing LLC	10/15/2009	NA	NA	NA	NA	NA	Member TPH	1200 Landmark Center 1299 Farnam Street Suite 800 Omaha, NE 68102	402-384-6100	Clearing Services
Cowen and Company, LLC	8/18/2008	10/7/2010	5/14/2010	5/14/2010	NA	NA	Member TPH	599 Lexington Avenue 20th Floor New York, NY 10022	646-562-1010	Market Maker
Cowen Execution Services LLC	10/15/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	1633 Broadway 48th Floor New York, NY 10019	800-367-8998	Full Service
Cowen Prime Services LLC	3/15/2011	3/15/2011	NA	NA	NA	NA	Member TPH	599 Lexington Avenue 21st Floor New York, NY 10022	646-562-1010	Public Customer Business, Proprietary Trading
Credit Suisse Securities (USA) LLC	9/3/2008	10/1/2010	5/25/2010	5/27/2010	8/14/1981	10/8/2010	Member TPH	11 Madison Avenue New York, NY 10010	212-325-2000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Critical Trading, LLC	7/1/2014	NA	NA	NA	NA	NA	Member TPH	120 W 45th Street 15th Floor New York, NY 10036	646-918-0529	Market Maker, Proprietary Trading
CSS, LLC	NA	NA	NA	NA	8/21/1998	NA	Member TPH	175 W Jackson Boulevard Suite 440 Chicago, IL 60604	312-542-8505	Proprietary Trading
CTC, LLC	NA	NA	NA	NA	3/25/1998	3/3/2011	Member TPH	440 S LaSalle Street 4th Floor Chicago, IL 60605	312-863-8000	Market Maker
Cutler Group, LP	4/1/2010	10/8/2010	NA	10/16/2015	4/5/1999	NA	Member TPH	101 Montgomery Street Suite 700 San Francisco, CA 94104	415-293-3956	Market Maker, Proprietary Trading
DART Executions, LLC	8/18/2008	10/1/2010	5/25/2010	5/27/2010	1/2/2008	10/20/2010	Member TPH	350 N Orleans Street Suite 2N Chicago, IL 60654	312-244-5400	Order Flow Provider, Transact Business with the Public, Brokerage
Dash Financial Technologies LLC	10/23/2008	7/2/2012	6/9/2010	6/9/2010	5/19/2000	9/30/2010	Member TPH	311 S Wacker Drive Suite 1000 Chicago, IL 60606	312-986-2006	Clearing, Floor Broker, Order Flow Provider, Transact Business with the Public, Brokerage
Deutsche Bank Securities Inc.	10/15/2008	10/11/2010	5/21/2010	5/21/2010	4/25/1996	8/15/2011	Member TPH	60 Wall Street New York, NY 10005	212-250-2500	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
DRW Securities, LLC	9/1/2009	11/1/2010	5/25/2010	5/27/2010	11/23/1998	1/22/2016	Member TPH	540 W Madison Street Suite 2500 Chicago, IL 60661	312-542-1000	Market Maker, Proprietary Trading
E*TRADE Securities LLC	NA	NA	NA	6/10/2010	NA	NA	Member TPH	11 Times Square 32nd Floor New York, NY 10036	646-521-4300	Public Customer Business
EG Market Technologies LLC	4/3/2017	4/3/2017	4/3/2017	4/3/2017	NA	NA	Member TPH	767 5th Avenue 48th Floor New York, NY 10153	646-757-2831	Market Maker, Proprietary Trading
Electronic Transaction Clearing, Inc.	10/23/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	680 S Figueroa Street Los Angeles, CA 90017	949-533-1885	Market Maker
Essex Radez LLC	2/17/2009	10/1/2010	5/10/2010	5/14/2010	NA	NA	Member TPH	440 S LaSalle Street Suite 1111 Chicago, IL 60605	312-212-1815	Market Maker
Evercore Group LLC	NA	NA	5/10/2017	NA	NA	NA	Member TPH	55 E 52nd Street New York, NY 10055	212-857-3100	Public Customer Business
FIS Brokerage & Securities Services LLC	8/18/2008	10/1/2010	5/6/2010	5/6/2010	NA	NA	Member TPH	2100 Enterprise Avenue Geneva, IL 60134	630-482-7100	Agency
Flow Traders U.S. Institutional Trading LLC	NA	NA	6/1/2016	NA	NA	NA	Member TPH	1114 Avenue of the Americas 4th Floor New York, NY 10036	917-210-5000	Riskless Principal
Flow Traders U.S. LLC	10/1/2009	8/1/2012	2/28/2014	2/28/2014	8/31/2010	NA	Member TPH	1114 Avenue of the Americas 4th Floor New York, NY 10036	917-210-5000	Proprietary Trading
G1 Execution Services, LLC	8/18/2008	12/1/2010	4/17/2010	4/17/2010	NA	NA	Member TPH	175 W Jackson Boulevard Suite 1700 Chicago, IL 60604	312-362-0404	Market Maker

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G2 Trading LLC	6/1/2016	NA	NA	NA	NA	NA	Member TPH	325 S Sangamon Street Chicago, IL 60607	404-697-9915	Market Maker, Proprietary Trading
Gelber Securities, LLC	5/1/2015	NA	NA	NA	NA	NA	Member TPH	350 N Orleans Street 7th Floor Chicago, IL 60654	312-408-4354	Market Maker, Proprietary Trading
Geneva Stock, LLC	NA	NA	NA	NA	4/6/2001	NA	Member TPH	440 S LaSalle Street Suite 1711 Chicago, IL 60605	312-362-4404	Market Maker
Glenn Smith Trading LLC	NA	NA	NA	NA	9/9/2010	NA	Member TPH	995 Ridgewood Drive Chicago, IL 60185	630-346-8739	Market Maker
Global Execution Brokers, LP	2/1/2010	10/5/2010	12/1/2015	10/15/2015	12/23/2003	9/24/2010	Member TPH	401 City Avenue Bala Cynwyd, PA 19004	610-617-2600	Floor Broker, Transact Business with the Public, Brokerage
Global HFT Management, LLC	10/1/2010	NA	NA	NA	NA	NA	Sponsored Participant	800 3rd Avenue New York, NY 10022	212-813-0870	Proprietary Trading
Global Liquidity Partners, LLC	4/21/2011	5/15/2012	NA	NA	NA	NA	Sponsored Participant	12 Broad Street Suite 201 Redbank, NJ 07701	773-459-4665	Agency
Goldman Sachs & Co. LLC	10/23/2008	10/12/2010	5/14/2010	5/14/2010	2/21/1973	10/8/2010	Member TPH	200 West Street New York, NY 10282	212-902-1000	Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage
Gordon, Haskett Capital Corporation	NA	NA	NA	5/2/2016	NA	NA	Member TPH	441 Lexington Avenue 10th Floor New York, NY 10017	212-883-0600	Agency, Institutional Trading
Green Street Trading, LLC	11/1/2011	NA	NA	NA	NA	NA	Member TPH	650 Newport Center Drive Suite 800 Newport Beach, CA 92660	214-749-4730	Agency
Group One Trading, LP	6/2/2015	NA	NA	9/29/2015	11/23/1994	NA	Member TPH	440 S LaSalle Street Suite 3232 Chicago, IL 60605	312-347-8864	Market Maker
GTS Securities LLC	12/17/2013	5/1/2012	6/2/2014	6/2/2014	NA	NA	Member TPH	545 Madison Avenue 15th Floor New York, NY 10022	212-715-2830	Market Maker, Proprietary Trading
Hainey Investments Limited	6/16/2014	NA	NA	NA	NA	NA	Sponsored Participant	Themistokli Derri 41 #806-807 Nicosia, Cyprus	704-248-8221	Proprietary Trading
HAP Trading, LLC	10/1/2009	11/15/2010	NA	6/2/2010	3/16/2001	NA	Member TPH	395 Hudson Street Suite 701 New York, NY 10014	212-380-5100	Market Maker, Proprietary Trading
Hardcastle Trading USA LLC	4/15/2009	NA	5/25/2010	5/27/2010	5/16/2005	NA	Member TPH	755 Secaucus Road Suite F-1110 Secaucus, NJ 07094	201-305-8888	Proprietary Trading
Henning-Carey Proprietary Trading, LLC	8/15/2012	NA	NA	NA	NA	NA	Sponsored Participant	141 W Jackson Boulevard Suite 1801 Chicago, IL 60604	312-789-8764	Proprietary Trading
Highbridge Capital Management, LLC	10/23/2008	NA	NA	NA	NA	NA	Sponsored Participant	9 West 57th Street 27th Floor New York, NY 10019	212-287-4900	Proprietary Trading
Hilltop Securities Inc.	10/23/2008	9/1/2010	NA	5/21/2013	10/1/2010	10/13/2010	Member TPH	1201 Elm Street Suite 3500 Dallas, TX 75270	214-859-1800	Clearing, Transact Business with the Public
HRT Financial LLC	2/1/2010	10/1/2010	5/18/2010	5/18/2010	1/24/2011	1/24/2011	Member TPH	4 World Trade Center 150 Greenwich Street, 57th Floor New York, NY 10007	212-293-1444	Proprietary Trading
HSBC Securities (USA) Inc.	4/3/2017	4/3/2017	4/3/2017	4/3/2017	11/21/2005	NA	Member TPH	452 Fifth Avenue New York, NY 10018	224-880-7116	Clearing, Transact Business with the Public
HTG Capital Partners, LLC	10/3/2016	10/3/2016	10/3/2016	10/3/2016	NA	NA	Sponsored Participant	601 S LaSalle Street 2nd Floor Chicago, IL 60605	312-327-4112	Proprietary Trading
Hybrid Trading & Resources, LLC	NA	NA	NA	NA	3/22/2005	NA	Member TPH	111 W Jackson Boulevard Suite 1148 Chicago, IL 60604	312-427-1585	Floor Broker, Transact Business with the Public
ICAP Corporates LLC	NA	NA	3/28/2013	NA	NA	NA	Member TPH	Harborside 5 Hudson Street, Suite 1200 Jersey City, NJ 07311	212-341-9944	Agency
IEX Services LLC	10/1/2013	10/1/2013	9/24/2013	9/24/2013	NA	NA	Member TPH	4 World Trade Center 44th Floor New York, NY 10007	646-343-2000	Limited Routing Facility of IEX affiliated Exchanges
IMC Financial Markets	8/18/2008	10/1/2010	5/25/2010	5/27/2010	7/5/2000	9/24/2010	Member TPH	233 S Wacker Drive Suite 4300 Chicago, IL 60606	312-244-3300	Market Maker, Proprietary Trading
Industrial and Commercial Bank of China Financial Services LLC	5/15/2014	5/15/2014	NA	NA	NA	NA	Member TPH	1633 Broadway 28th Floor New York, NY 10019	212-993-7300	Clearing Services
Instinet LLC	8/18/2008	9/1/2010	5/14/2010	5/14/2010	12/29/2009	10/6/2010	Member TPH	Worldwide Plaza 309 W 49th Street New York, NY 10019	212-310-9500	Clearing, Transact Business with the Public, Brokerage
Interactive Brokers Corp.	NA	NA	NA	NA	4/21/2009	10/6/2010	Member TPH	8 Greenwich Office Park Greenwich, CT 06831	203-618-5700	Floor Broker, Brokerage
Interactive Brokers LLC	8/18/2008	9/15/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	One Pickwick Plaza 2nd Floor Greenwich, CT 06830	203-618-5710	Full Service
International Correspondent Trading, Inc.	8/18/2008	NA	NA	NA	NA	NA	Member TPH	One University Plaza Suite 301 Hackensack, NJ 07601	201-222-9300	Agency
Israel A. Englander & Co., LLC	NA	NA	NA	NA	10/27/1995	2/14/2011	Member TPH	666 5th Avenue 14th Floor New York, NY 10103	212-841-4567	Floor Broker, Transact Business with the Public, Brokerage
ISTRA, LLC	12/15/2011	12/15/2011	NA	NA	NA	NA	Sponsored Participant	230 Park Avenue 10th Floor New York, NY 10169	718-618-4929	Proprietary Trading
ITG Derivatives LLC	8/18/2008	11/15/2010	NA	11/12/2015	2/1/2008	10/26/2010	Member TPH	601 S LaSalle Street Suite 300 Chicago, IL 60605	312-334-8000	Transact Business with the Public, Brokerage
ITG Inc.	8/18/2008	10/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	One Liberty Plaza 165 Broadway, 4th Floor New York, NY 10006	212-588-4000	Agency
J.P. Morgan Securities LLC	8/18/2008	9/15/2010	5/14/2010	5/14/2010	10/29/1985	11/18/2010	Member TPH	383 Madison Avenue New York, NY 10179	212-272-2000	Clearing, Transact Business with the Public
Jane Street Capital, LLC	5/1/2009	11/15/2010	5/14/2010	5/14/2010	9/4/2012	NA	Member TPH	250 Vesey Street 5th Floor New York, NY 10281	646-759-6000	Market Maker, Proprietary Trading
Jane Street Options, LLC	1/3/2012	NA	NA	NA	NA	NA	Sponsored Participant	One New York Plaza New York, NY 10004	212-651-6969	Proprietary Trading
Jane Street Options, LLC	4/15/2016	NA	NA	NA	5/2/2005	NA	Member TPH	250 Vesey Street 5th Floor New York, NY 10281	646-759-6000	Market Maker
Jefferies Investment Advisers	7/1/2011	7/15/2011	NA	NA	NA	NA	Sponsored Participant	520 Madison Avenue New York, NY 10022	212-323-3993	Full Service
Jefferies LLC	10/23/2008	10/19/2010	5/25/2010	5/27/2010	7/9/2012	7/18/2012	Member TPH	520 Madison Avenue New York, NY 10022	212-284-2300	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage

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JNK Securities Corp.	11/17/2008	11/15/2010	NA	NA	NA	NA	Member TPH	140 E 45th Street 27th Floor New York, NY 10017	212-885-6300	Agency
Juliet Group, LLC	3/1/2011	3/1/2011	NA	NA	NA	NA	Sponsored Participant	240 E 35th Street #3A New York, NY 10016	646-360-0595	Proprietary Trading
Juliet Labs, LLC	9/20/2017	9/20/2017	9/20/2017	9/20/2017	NA	NA	Sponsored Participant	1 Northside Piers Suite 14H Brooklyn, NY 11249	646-360-0595	Proprietary Trading
Jump Trading, LLC	8/18/2008	10/1/2010	5/14/2010	5/14/2010	4/2/2012	6/5/2017	Member TPH	600 W Chicago Avenue Suite 825 Chicago, IL 60654	312-205-8900	Market Maker, Proprietary Trading
Keefe, Bruyette & Woods, Inc.	8/18/2008	12/1/2010	6/8/2010	6/8/2010	NA	NA	Member TPH	787 7th Avenue New York, NY 10019	212-887-7777	Agency
Lakeshore Securities, LP	NA	NA	NA	NA	1/24/1983	NA	Member TPH	401 S LaSalle Street Suite 1000 Chicago, IL 60605	312-663-1307	Clearing, Floor Broker, Market Maker, Transact Business with the Public
Lamberson Capital LLC	NA	NA	NA	NA	3/23/2016	NA	Member TPH	71 S Wacker Drive Suite 2300 Chicago, IL 60606	312-360-7300	Market Maker
Lampert Capital Markets Inc.	NA	2/18/2014	2/26/2014	NA	NA	NA	Member TPH	444 Madison Avenue Suite 401 New York, NY 10022	646-833-4900	Introducing Broker
Lamport Capital, LC	NA	NA	NA	3/15/2016	NA	NA	Member TPH	1900 Glades Road Suite 205 Boca Raton, FL 33431	561-883-0454	Public Customer Business, Proprietary Trading
Latour Trading LLC	8/17/2009	10/1/2010	5/26/2010	5/27/2010	4/8/2011	NA	Member TPH	377 Broadway 10th Floor New York, NY 10013	917-388-8000	Proprietary Trading
Leerink Partners LLC	8/18/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	1 Federal Street 37th Floor Boston, MA 02110	617-918-4900	Agency
LEK Securities Corporation	8/18/2008	10/1/2010	5/26/2010	5/27/2010	1/9/2001	9/24/2010	Member TPH	1 Liberty Plaza 165 Broadway, 52nd Floor New York, NY 10006	212-509-2300	Clearing, Transact Business with the Public
Lightspeed Trading, LLC	8/18/2008	11/15/2010	5/19/2010	5/19/2010	NA	NA	Member TPH	1001 Avenue of the Americas 16th Floor New York, NY 10018	646-393-4800	Proprietary Trading
Lime Brokerage LLC	8/18/2008	10/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	11 E 44th Street Suite 705 New York, NY 10017	212-824-5000	Transact Business with the Public
Liquidnet, Inc.	9/1/2009	9/15/2010	NA	NA	NA	NA	Member TPH	498 7th Avenue 15th Floor New York, NY 10018	646-674-2000	Agency
Lupo Securities, LLC	NA	NA	NA	NA	8/1/1997	NA	Member TPH	141 W Jackson Boulevard Suite 2200A Chicago, IL 60604	312-477-8400	Market Maker, Proprietary Trading
Macquarie Capital (USA) Inc.	12/1/2009	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	125 W 55th Street Level 22 New York, NY 10019	212-231-1000	Agency
Marathon Trading Group LLC	2/13/2015	NA	NA	NA	1/30/2013	NA	Member TPH	100 Matsonford Road Building 2, Suite 107 Wayne, PA 19087	610-254-4890	Market Maker, Proprietary Trading
Match-Point Securities, LLC	NA	NA	NA	11/16/2015	NA	NA	Member TPH	805 3rd Avenue 15th Floor New York, NY 10022	212-760-0760	Public Customer Business
Meadowhawk Capital, LLC	NA	NA	NA	NA	6/1/2007	NA	Member TPH	141 W Jackson Boulevard Suite 3750 Chicago, IL 60604	773-837-2612	Market Maker
Merrill Lynch Professional Clearing Corp.	8/18/2008	10/5/2010	5/14/2010	5/14/2010	4/8/1985	9/24/2010	Member TPH	One Bryant Park, 6th Floor NY-100-06-01 New York, NY 10036	646-743-1295	Clearing, Brokerage, Transact Business with the Public
Merrill Lynch, Pierce, Fenner & Smith Incorporated	8/18/2008	10/4/2010	5/14/2010	5/14/2010	4/25/1973	9/27/2010	Member TPH	One Bryant Park New York, NY 10036	800-637-7455	Clearing, Transact Business with the Public, Brokerage, Market Maker, Proprietary Trading
Mint Global Markets, Inc.	NA	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	1717 Route 6 Suite 102 Carmel, NY 10512	800-874-3039	Agency
Mizuho Securities USA, LLC	6/1/2010	1/3/2011	NA	NA	NA	NA	Member TPH	320 Park Avenue 12th Floor New York, NY 10022	212-209-9300	Agency
MKM Partners LLC	8/3/2009	NA	5/14/2010	5/14/2010	NA	NA	Member TPH	300 First Stamford Place 4th Floor East Wing Stamford, CT 06902	203-861-9060	Agency
MNR Executions, LLC	NA	NA	NA	NA	4/30/2008	NA	Member TPH	141 W Jackson Boulevard Suite 3900 Chicago, IL 60604	312-878-4704	Floor Broker, Transact Business with the Public
Monadnock Capital Management, LP	NA	NA	5/26/2010	NA	12/1/2014	NA	Member TPH	1845 Walnut Street Suite 940 Philadelphia, PA 19103	267-239-0367	Market Maker
Moors & Cabot, Inc.	NA	4/2/2012	NA	NA	NA	NA	Member TPH	111 Devonshire Street Boston, MA 02109	617-426-0500	Agency
Morgan Stanley & Co. International plc	NA	NA	NA	NA	4/12/2017	NA	Sponsored Participant	20 Bank Street Canary Wharf London, UK E14 4A	44 20 7425-3107	
Morgan Stanley & Co. LLC	10/23/2008	9/1/2010	5/14/2010	5/14/2010	8/20/1980	9/24/2010	Member TPH	1585 Broadway New York, NY 10036	212-761-4000	Clearing, Market Maker, Proprietary Trading, Transact Business with the Public, Brokerage
Nasdaq Execution Services, LLC	8/19/2008	9/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	One Liberty Plaza 165 Broadway New York, NY 10006	212-231-5100	Limited Routing Facility of Nasdaq affiliated Exchanges
National Financial Services LLC	10/23/2008	10/4/2010	5/26/2010	5/27/2010	10/8/1987	4/16/2012	Member TPH	200 Seaport Boulevard Boston, MA 02210	617-563-7000	Clearing, Floor Broker, Transact Business with the Public
National Securities Corporation	7/1/2009	NA	NA	NA	NA	NA	Member TPH	One Union Square 600 University Street, Suite 2900 Seattle, WA 98101	206-622-7200	Agency
Needham & Company, LLC	10/23/2008	10/1/2010	NA	NA	NA	NA	Member TPH	445 Park Avenue New York, NY 10022	212-371-8300	Market Maker
Nomura Securities International, Inc.	10/23/2008	10/1/2010	5/26/2010	5/27/2010	9/1/2009	11/16/2010	Member TPH	Worldwide Plaza 309 W 49th Street New York, NY 10019	212-667-9000	Clearing, Transact Business with the Public, Proprietary Trading
Northern Trust Securities, Inc.	8/18/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	50 S LaSalle Street Chicago, IL 60603	312-557-2000	Market Maker
Northland Securities, Inc.	12/15/2010	12/15/2010	NA	NA	NA	NA	Member TPH	45 S 7th Street 20th Floor Minneapolis, MN 55402	612-851-5900	Market Maker, Proprietary Trading
Old Mission Capital, LLC	4/16/2012	4/16/2012	4/25/2012	4/25/2012	9/27/2017	NA	Member TPH	314 W Superior Suite 200 Chicago, IL 60654	312-260-3031	Market Maker
Olivetree Financial, LLC	NA	NA	9/1/2016	NA	NA	NA	Member TPH	420 Lexington Avenue Suite 800 New York, NY 10170	646-930-6600	Agency
Oppenheimer & Co. Inc.	NA	NA	NA	NA	5/17/1973	NA	Member TPH	85 Broad Street 22nd, 24th Floors New York, NY 10004	212-668-8000	Clearing, Transact Business with the Public

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Optiver US, LLC	6/15/2009	NA	NA	NA	6/1/2005	9/24/2010	Member TPH	130 E Randolph Street 14th Floor Chicago, IL 60601	312-821-9500	Market Maker
Oscar Gruss & Son Incorporated	8/7/2017	NA	NA	NA	NA	NA	Member TPH	430 Park Avenue 6th Floor New York, NY 10022	212-419-4000	Agency
OTA LLC	8/18/2008	10/7/2010	NA	NA	NA	NA	Member TPH	One Manhattanville Road Purchase, NY 10577	914-694-5800	Institutional Trading
PEAKS Capital Management LLC	8/1/2014	NA	NA	2/1/2016	12/2/1997	NA	Member TPH	141 W Jackson Boulevard Suite 500 Chicago, IL 60604	312-444-8000	Proprietary Trading
PEAKS Capital Management, LLC	11/3/2008	7/15/2011	NA	NA	NA	NA	Sponsored Participant	141 W Jackson Boulevard Suite 500 Chicago, IL 60604	312-362-2401	Market Maker
Penserra Securities, LLC	8/18/2008	10/6/2010	NA	NA	NA	NA	Member TPH	4 Orinda Way Suite 100-A Orinda, CA 94563	212-607-3190	Agency
Pershing LLC	8/18/2008	9/15/2010	5/26/2010	5/27/2010	2/21/1973	9/28/2010	Member TPH	One Pershing Plaza Jersey City, NJ 07399	201-413-2000	Clearing, Transact Business with the Public
Phillip Capital Inc.	NA	NA	NA	11/27/2017	NA	NA	Member TPH	141 W Jackson Boulevard Suite 3050 Chicago, IL 60604	312-356-9001	Clearing Services
Pictet Overseas Inc.	6/1/2015	6/1/2015	5/26/2010	5/27/2010	NA	NA	Member TPH	1000 de la Gauchetiere West Suite 3100 Montreal, Quebec H3B 4W5	514-288-8161	Agency
Piper Jaffray & Co.	10/15/2008	11/15/2012	5/14/2010	5/14/2010	NA	NA	Member TPH	800 Nicollet Mall Minneapolis, MN 55402	612-303-6000	Market Maker
Potamus Trading, LLC	4/15/2013	4/15/2013	4/11/2013	4/11/2013	NA	NA	Member TPH	2 Seaport Lane 8th Floor Boston, MA 02210	617-855-8722	Market Maker, Proprietary Trading
Princeton Alpha Management, LP	12/1/2015	12/1/2015	12/1/2015	12/1/2015	NA	NA	Sponsored Participant	61 Princeton Hightstown Road West Windsor, NJ 08550	609-269-9212	Agency
PTR, Inc.	NA	NA	NA	NA	8/2/1995	NA	Member TPH	1800 JFK Boulevard Suite 401 Philadelphia, PA 19103	267-909-8368	Floor Broker, Transact Business with the Public
Puma Capital, LLC	NA	NA	6/15/2016	6/15/2016	NA	NA	Member TPH	287 Bowman Avenue 3rd Floor Purchase, NY 10577	212-269-4100	Market Maker, Proprietary Trading
Pundion LLC	2/27/2017	2/27/2017	2/27/2017	2/27/2017	NA	NA	Member TPH	230 Park Avenue 10th Floor New York, NY 10169	718-618-4929	Proprietary Trading
Quantex Clearing, LLC	10/3/2011	12/27/2011	5/17/2011	5/17/2011	NA	NA	Member TPH	70 Hudson Street Hoboken, NJ 07030	201-706-7157	Clearing Services
Quantlab Securities LP	8/18/2008	11/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	3 Greenway Plaza Suite 200 Houston, TX 77046	713-333-3700	Transact Business with the Public, Brokerage
Quiet Light Securities, LLC	NA	NA	NA	NA	5/1/2001	NA	Member TPH	141 W Jackson Boulevard Suite 2020A Chicago, IL 60604	312-431-0573	Market Maker, Proprietary Trading
R.W. Pressprich & Co.	2/17/2009	11/15/2010	6/2/2010	6/2/2010	NA	NA	Member TPH	452 5th Avenue New York, NY 10018	212-832-6200	Agency
Rackson Asset Management, LLC	10/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	2000 Broadway Suite 22C New York, NY 10023	212-724-2567	Proprietary Trading
Rainier Investment Management, Inc.	1/4/2010	NA	NA	NA	NA	NA	Sponsored Participant	601 Union Street Suite 2801 Seattle, WA 98101	206-518-6658	Hedge Fund
RBC Capital Markets, LLC	9/18/2008	10/14/2010	5/14/2010	5/14/2010	11/24/1993	10/19/2010	Member TPH	3 World Financial Center 200 Vesey Street New York, NY 10281	212-858-7000	Clearing, Proprietary Trading, Transact Business with the Public
Robert W. Baird & Co. Incorporated	10/23/2008	1/3/2011	NA	NA	NA	NA	Member TPH	777 E Wisconsin Avenue Milwaukee, WI 53202	414-765-3500	Market Maker
Ronin Capital, LLC	NA	NA	NA	NA	12/17/2001	NA	Member TPH	350 N Orleans Street Suite 2N Chicago, IL 60654	312-244-5000	Market Maker
Rosenblatt Securities Inc.	8/18/2008	10/6/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	40 Wall Street 59th Floor New York, NY 10005	212-607-3100	Agency
Roth Capital Partners, LLC	8/18/2008	NA	NA	NA	NA	NA	Member TPH	888 San Clemente Suite 400 Newport Beach, CA 92660	949-720-5700	Market Maker
SAC Capital Advisors, LP	10/23/2008	NA	NA	NA	NA	NA	Sponsored Participant	72 Cummings Point Road Stamford, CT 06902	203-890-2275	Hedge Fund
Safra Securities LLC	NA	NA	5/26/2010	5/27/2010	NA	NA	Member TPH	546 5th Avenue New York, NY 10036	212-704-5500	Market Maker
SageTrader, LLC	3/1/2016	6/5/2017	6/5/2017	6/1/2016	NA	NA	Member TPH	340 Pine Street Suite 501 San Francisco, CA 94104	415-293-3894	Public Customer Business
SAL Equity Trading, GP	9/3/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-3000	Agency, Institutional Trading
Sanford C. Bernstein & Co, LLC	9/10/2008	10/21/2010	5/26/2010	5/27/2010	8/13/2013	NA	Member TPH	1345 Avenue of the Americas New York, NY 10105	212-969-1000	Clearing, Proprietary Trading, Transact Business with the Public
Santander Investment Securities Inc.	4/15/2009	1/3/2011	NA	NA	NA	NA	Member TPH	45 E 53rd Street New York, NY 10022	212-350-3500	Institutional Trading
Scotia Capital (USA) Inc.	3/2/2009	9/15/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	250 Vesey Street New York, NY 10281	212-225-6500	Institutional Trading
Scottrade, Inc.	6/1/2010	11/15/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	700 Maryville Centre Drive St. Louis, MO 63141	314-965-1555	Public Customer Business
Seven Points Capital, LLC	NA	NA	5/14/2010	NA	NA	NA	Member TPH	805 3rd Avenue 15th Floor New York, NY 10022	212-760-0760	Agency
SG Americas Securities, LLC	9/17/2008	11/15/2011	5/14/2010	5/14/2010	4/23/2004	1/2/2015	Member TPH	245 Park Avenue New York, NY 10167	212-278-6000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Silver Fern Investments, LLC	8/20/2015	8/20/2015	8/20/2015	8/20/2015	NA	NA	Sponsored Participant	533 2nd Street Encinitas, CA 92024	858-947-8650	Proprietary Trading
Simplex Trading, LLC	3/16/2015	NA	NA	4/13/2017	8/12/2010	3/1/2017	Member TPH	230 S LaSalle Street Suite 4-100 Chicago, IL 60604	312-360-2440	Market Maker, Proprietary Trading
SMBC Nikko Securities America, Inc.	8/7/2017	8/7/2017	8/7/2017	8/7/2017	NA	NA	Member TPH	277 Park Avenue 5th Floor New York, NY 10172	212-224-5039	Institutional Trading
SogoTrade, Inc.	NA	NA	NA	6/19/2017	NA	NA	Member TPH	11 Broadway Suite 514 New York, NY 10004	646-885-6486	Public Customer Business

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Spot Trading LLC	6/1/2012	NA	1/25/2013	1/25/2013	NA	NA	Member TPH	440 S LaSalle Street Suite 2800 Chicago, IL 60605	312-362-4550	Market Maker, Proprietary Trading
Stifel, Nicolaus & Company, Incorporated	8/18/2008	NA	6/2/2010	6/2/2010	NA	NA	Member TPH	501 N Broadway St. Louis, MO 63102	314-342-2000	Agency
Stuyvesant Trading Group, LLC	8/15/2013	NA	NA	NA	NA	NA	Member TPH	3 Columbus Circle 15th Floor New York, NY 10019	203-207-0021	Market Maker
Summit Securities Group, LLC	7/16/2012	7/16/2012	8/20/2012	8/20/2012	6/6/2012	NA	Member TPH	55 Broadway Suite 2102 New York, NY 10006	646-738-4066	Market Maker, Proprietary Trading
Sumo Capital, LLC	7/15/2013	NA	NA	10/15/2015	3/3/2008	NA	Member TPH	440 S LaSalle Street Suite 2101 Chicago, IL 60605	312-324-0326	Market Maker, Proprietary Trading
SumRidge Partners, LLC	NA	NA	NA	12/27/2017	NA	NA	Member TPH	111 Town Square Place Suite 320 Jersey City, NJ 07310	201-898-2520	Proprietary Trading
Sun Trading LLC	8/18/2008	10/1/2010	5/26/2010	5/27/2010	9/3/2013	NA	Member TPH	100 S Wacker Drive Suite 300 Chicago, IL 60606	312-924-4777	Market Maker, Proprietary Trading
Susquehanna Financial Group, LLLP	9/3/2008	10/5/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	800-825-9550	Agency, Institutional Trading
Susquehanna Investment Group	NA	NA	NA	NA	5/1/1987	NA	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-2600	Market Maker
Susquehanna Securities	10/15/2014	10/15/2014	10/15/2014	10/15/2014	4/4/1994	9/24/2010	Member TPH	401 City Avenue Suite 220 Bala Cynwyd, PA 19004	610-617-2600	Market Maker, Proprietary Trading
Synergy Capital Management, LLC	8/1/2016	NA	NA	NA	6/5/2007	NA	Member TPH	141 W Jackson Boulevard Suite 1530 Chicago, IL 60604	312-986-8869	Proprietary Trading
TD Ameritrade Clearing, Inc.	5/3/2011	5/3/2011	NA	5/27/2010	NA	NA	Member TPH	200 S 108th Avenue Omaha, NE 68154	800-669-3900	Public Customer Business, Clearing Services
Telsey Advisory Group, LLC	1/24/2011	8/15/2014	NA	NA	NA	NA	Member TPH	555 5th Avenue 7th Floor New York, NY 10017	212-973-9700	Public Customer Business
Tewksbury Investment Fund, Ltd.	7/1/2011	7/1/2011	1/6/2015	1/6/2015	NA	NA	Sponsored Participant	Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda	610-971-5000	Proprietary Trading
Tewksbury Investment Fund, Ltd.	10/23/2008	11/15/2010	NA	NA	NA	NA	Sponsored Participant	Washington Mall I 20th Church Street, 4th Floor Hamilton, HM 11 Bermuda	212-310-7076	Proprietary Trading
Themis Trading LLC	8/18/2008	10/1/2010	NA	NA	NA	NA	Member TPH	10 Town Square Suite 100 Chatham, NJ 07928	973-665-9600	Agency
ThinkTrade, LLC	2/1/2010	10/20/2010	1/9/2015	1/9/2015	NA	NA	Sponsored Participant	2210 Encinitas Boulevard Suite 1 Encinitas, CA 92024	760-452-2451	Proprietary Trading
Timber Hill LLC	2/16/2010	NA	NA	NA	12/27/1996	12/15/2010	Member TPH	One Pickwick Plaza Suite 200 Greenwich, CT 06830	203-618-5800	Clearing, Market Maker
TJM Investments, LLC	NA	NA	NA	NA	3/11/2013	NA	Member TPH	318 W Adams Street 9th Floor Chicago, IL 60606	312-432-5100	Floor Broker, Transact Business with the Public
TMT East LLC	6/1/2015	NA	NA	NA	NA	NA	Member TPH	440 S LaSalle Street Suite 1729 Chicago, IL 60605	312-362-4014	Market Maker
TMT Investments, LLC	NA	NA	NA	NA	4/2/2008	NA	Member TPH	440 S LaSalle Street Suite 1729 Chicago, IL 60605	312-362-3024	Market Maker
Tradebot Systems, Inc.	8/18/2008	9/1/2010	5/26/2010	5/27/2010	NA	NA	Member TPH	1251 NW Briardell Parkway Suite 700 Kansas City, MO 64116	816-285-6400	Proprietary Trading
TradeKing	10/15/2009	11/15/2010	NA	NA	NA	NA	Member TPH	888 E Las Olas Boulevard Suite 300 Fort Lauderdale, FL 33301	877-495-5464	Agency
TradeStation Securities, Inc.	8/18/2008	9/1/2010	5/25/2010	5/25/2010	NA	NA	Member TPH	8050 SW 10th Street Suite 2000 Plantation, FL 33324	954-652-7900	Market Maker
TRC Helepolis, Ltd.	12/11/2009	NA	NA	NA	NA	NA	Sponsored Participant	377 Broadway 11th Floor New York, NY 10013	646-472-1792	Proprietary Trading
TRC Markets LLC	4/13/2017	4/13/2017	4/13/2017	4/13/2017	NA	NA	Member TPH	710 Johnnie Dodds Boulevard Suite 300 Mt. Pleasant, SC 29464	917-388-8644	Agency
Trinity Executions, LLC	NA	NA	NA	NA	11/1/2011	NA	Member TPH	141 W Jackson Boulevard Suite 3900 Chicago, IL 60604	312-878-4704	Floor Broker, Transact Business with the Public
Tudor, Pickering, Holt & Co. Securities, Inc.	8/18/2008	10/17/2011	NA	NA	NA	NA	Member TPH	1111 Bagby Suite 4900 Houston, TX 77002	713-333-7100	Agency
Two Sigma Investments, LLC	9/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	212-775-6678	Proprietary Trading
Two Sigma Partners Master Fund, Ltd.	3/2/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	212-775-6678	Proprietary Trading
Two Sigma Securities, LLC	7/1/2009	NA	NA	NA	NA	NA	Sponsored Participant	100 Avenue of the Americas 4th Floor New York, NY 10013	646-292-6643	Proprietary Trading
Two Sigma Securities, LLC	10/1/2009	10/5/2010	5/27/2010	5/27/2010	9/15/2017	NA	Member TPH	100 Avenue of the Americas 19th Floor New York, NY 10013	212-625-5700	Market Maker
U.S. Securities, Intl. Corp.	NA	NA	NA	NA	7/3/1973	NA	Member TPH	120 Broadway Suite 1017 New York, NY 10271	212-227-0800	Transact Business with the Public
UBS Financial Services Inc.	NA	NA	NA	NA	12/11/1972	NA	Member TPH	1200 Harbor Boulevard Weehawken, NJ 07086	201-352-3000	Clearing, Transact Business with the Public
UBS Securities LLC	10/15/2008	10/1/2010	4/12/2010	4/12/2010	10/1/1996	10/8/2010	Member TPH	1285 Avenue of the Americas New York, NY 10019	203-719-3000	Clearing, Proprietary Trading, Transact Business with the Public
Ustocktrade Securities, Inc.	4/17/2015	NA	NA	NA	NA	NA	Member TPH	275 Grove Street Suite 2-400 Newton, MA 02466	617-340-3041	Public Customer Business, Proprietary Trading
ViewTrade Securities, Inc.	8/18/2008	11/15/2010	6/10/2010	6/10/2010	NA	NA	Member TPH	7280 W Palmetto Park Road Suite 310 Boca Raton, FL 33433	561-620-0306	Agency
Virtu Americas LLC	9/15/2009	10/14/2010	1/3/2011	1/3/2011	9/18/2009	3/17/2011	Member TPH	300 Vesey Street New York, NY 10282	646-682-6000	Clearing, Proprietary Trading, Transact Business with the Public, Brokerage
Virtu Financial BD LLC	11/17/2008	10/7/2010	5/27/2010	5/27/2010	3/1/2010	6/12/2012	Member TPH	307 Camp Craft Road Austin, TX 78743	800-544-7508	Proprietary Trading
Virtu Financial Capital Markets LLC	8/18/2008	9/1/2010	5/25/2010	5/27/2010	NA	NA	Member TPH	300 Vesey Street New York, NY 10282	212-418-0100	Proprietary Trading

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Vision Financial Markets LLC	4/1/2009	11/15/2010	7/13/2012	7/13/2012	12/11/2006	NA	Member TPH	120 Long Ridge Road 3 North Stamford, CT 06902	203-388-2700	Clearing, Transact Business with the Public
Volant Liquidity, LLC	4/15/2011	NA	5/27/2010	5/27/2010	2/1/2010	3/23/2011	Member TPH	250 Vesey Street Suite 2601 New York, NY 10281	646-804-7900	Market Maker, Order Flow Provider, Brokerage
Wall Street Access	11/3/2008	10/17/2011	5/27/2010	5/27/2010	NA	NA	Member TPH	17 Battery Place 11th Floor New York, NY 10004	212-709-9400	Agency
Walleye Trading LLC	12/1/2008	11/12/2010	NA	NA	6/1/2006	NA	Member TPH	2800 Niagara Lane North Plymouth, MN 55447	952-345-6611	Market Maker
Wedbush Securities Inc.	8/18/2008	9/1/2010	5/27/2010	5/27/2010	2/23/2012	3/8/2012	Member TPH	1000 Wilshire Boulevard Suite 900 Los Angeles, CA 90017	213-688-8090	Clearing
Wells Fargo Clearing Services, LLC	7/1/2016	NA	NA	NA	11/14/2016	NA	Member TPH	One N Jefferson Avenue Mail Code: H0004-050 St. Louis, MO 63103	314-875-3000	Clearing, Transact Business with the Public
Wells Fargo Securities, LLC	8/18/2008	10/11/2010	6/9/2010	6/9/2010	4/1/2014	3/31/2014	Member TPH	550 S Tryon Street, 6th Floor D1086-060 Charlotte, NC 28202	704-410-1913	Clearing, Proprietary Trading
Western International Securities, Inc.	8/18/2008	11/15/2010	NA	NA	NA	NA	Member TPH	70 S Lake Avenue Suite 700 Pasadena, CA 91101	626-793-7717	Market Maker
Wolverine Execution Services, LLC	8/18/2008	10/19/2010	5/14/2010	5/14/2010	3/1/2006	9/24/2010	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Clearing, Floor Broker, Transact Business with the Public, Brokerage
Wolverine Securities, LLC	NA	NA	NA	5/31/2017	NA	NA	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Market Maker
Wolverine Trading, LLC	10/3/2011	NA	NA	10/1/2015	7/12/1994	9/24/2010	Member TPH	175 W Jackson Boulevard Suite 200 Chicago, IL 60604	312-884-4000	Market Maker, Proprietary Trading
X-Change Financial Access, LLC	NA	NA	NA	NA	5/1/2003	NA	Member TPH	440 S LaSalle Street Suite 2900 Chicago, IL 60605	312-235-0320	Clearing, Floor Broker, Transact Business with the Public
XR Securities LLC	1/15/2009	11/15/2010	5/10/2012	5/10/2012	11/30/2007	NA	Member TPH	550 W Jackson Boulevard Suite 1000 Chicago, IL 60661	312-244-4500	Market Maker, Proprietary Trading